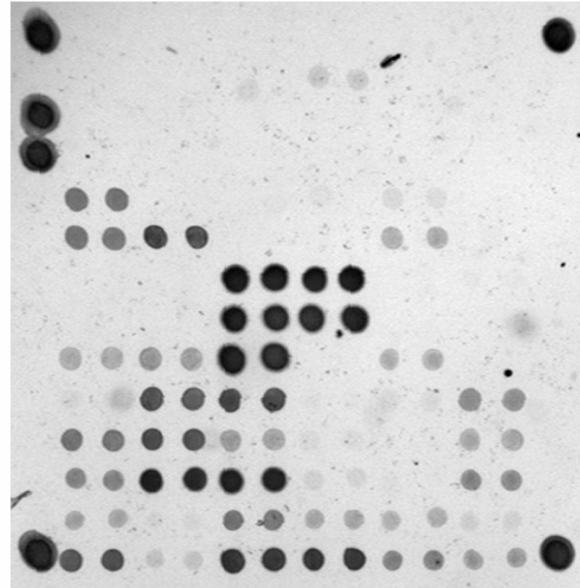


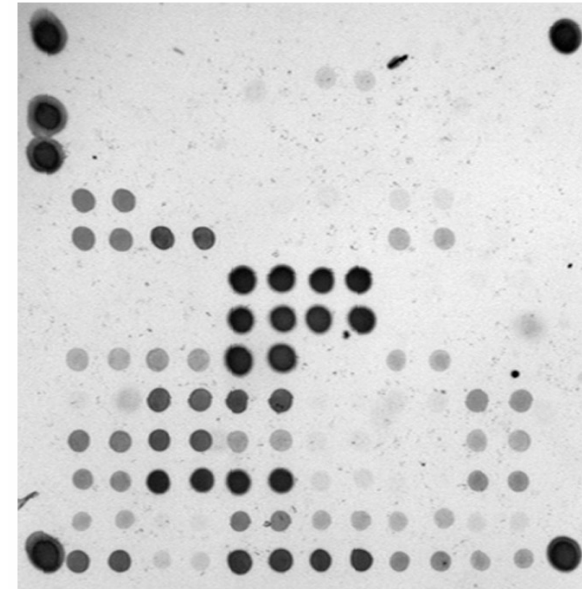
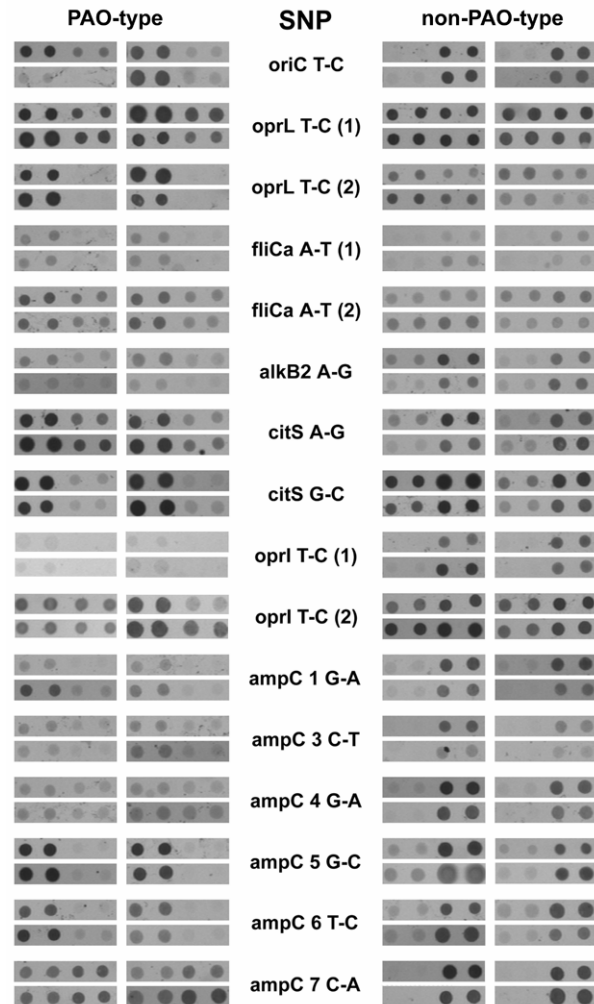
# Explanation of the conversion of SNP- patterns obtained from the *P.aeruginosa* typing chip to a hexadecimal code

An example

**Strain: *P.aeruginosa* PAK**



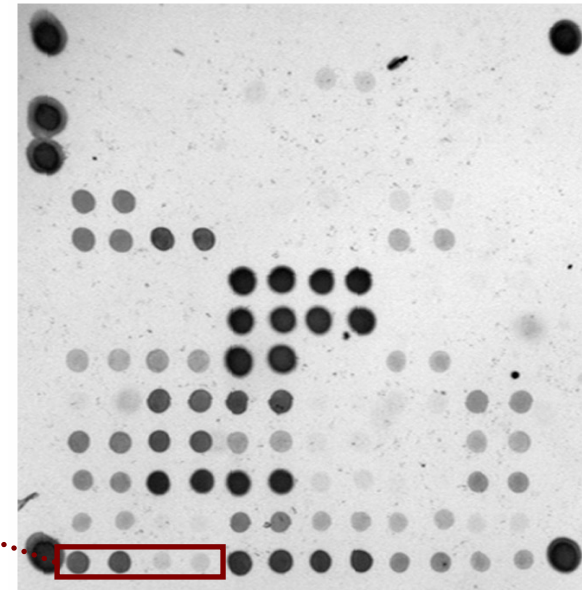
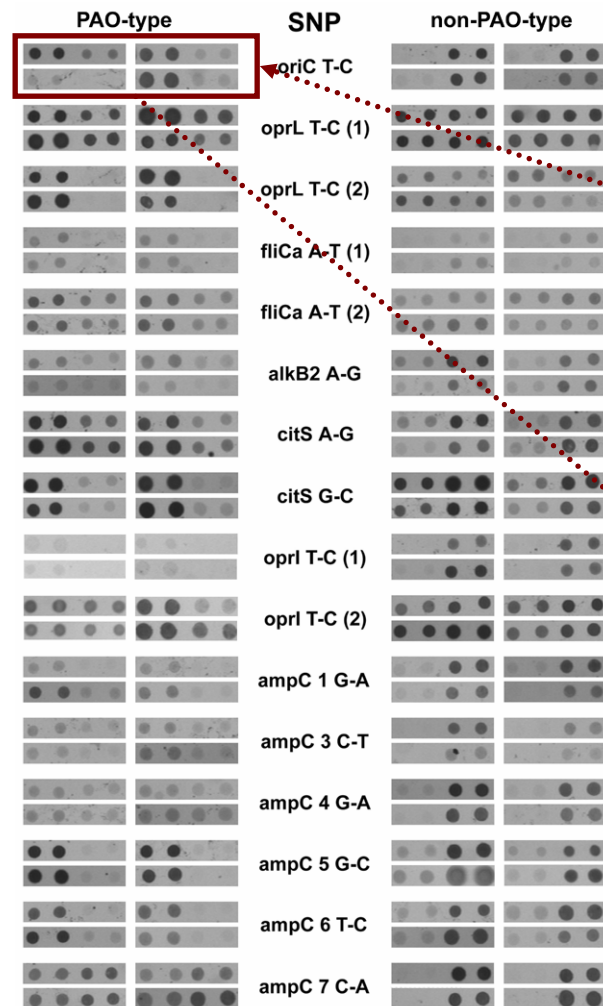
### Evaluation of the SNP-pattern:



M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Arg</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Arg</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO orfC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

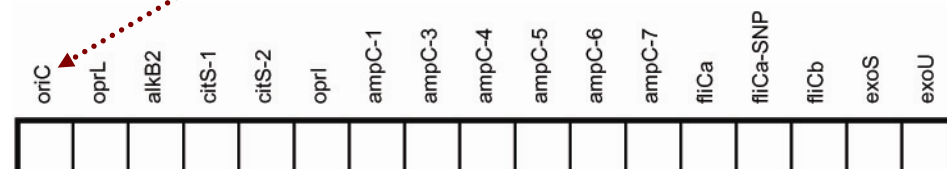


### Evaluation of the SNP-pattern:



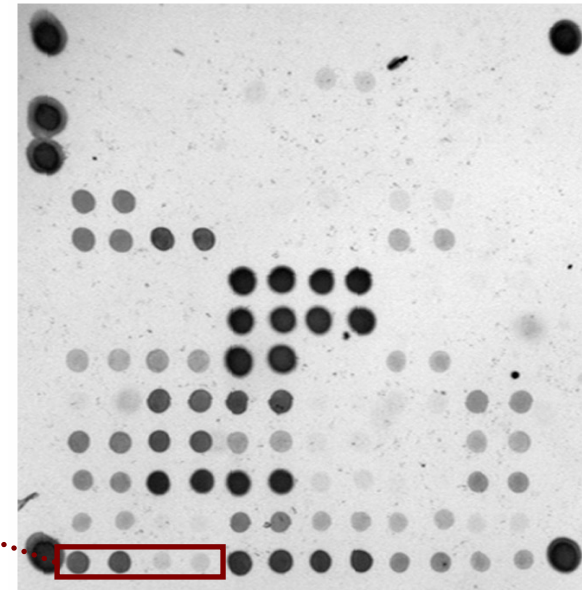
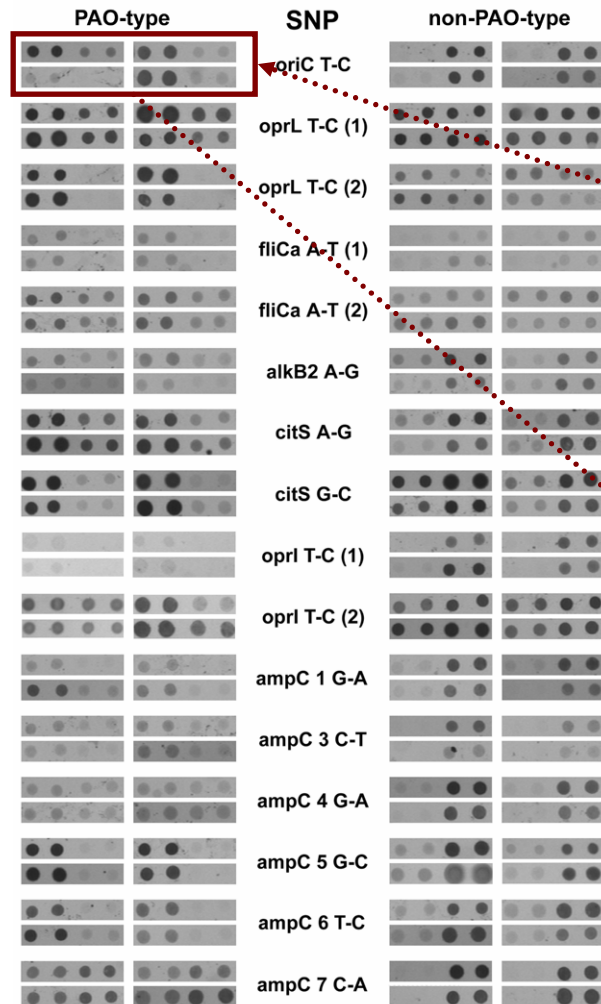
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fliA-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO orfC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

PAO- type = 0  
non-PAO-type = 1



# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:

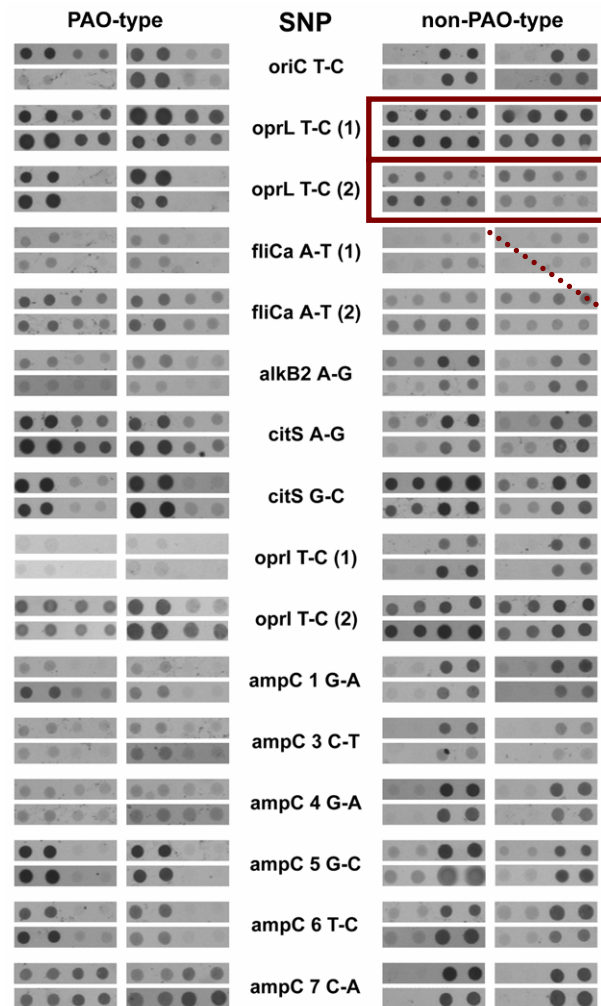


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAPi-1 pili chaperone	PAPi-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprl (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprl (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO	oriC non-PAO	PAO oprl (1) non-PAO		PAO oprl (2) non-PAO		M

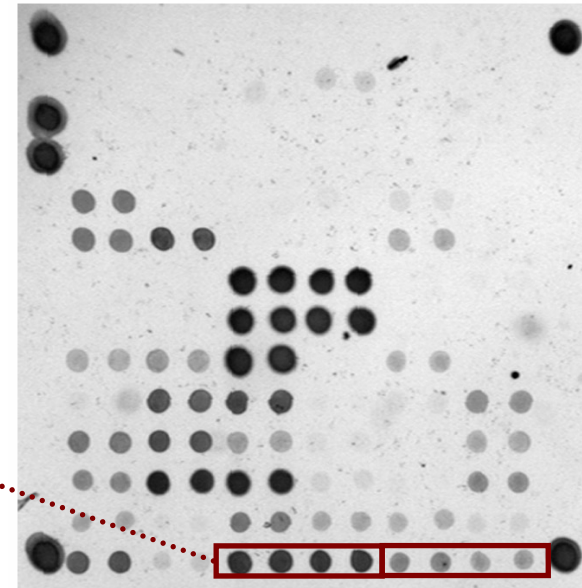
PAO- type = 0  
non-PAO-type = 1



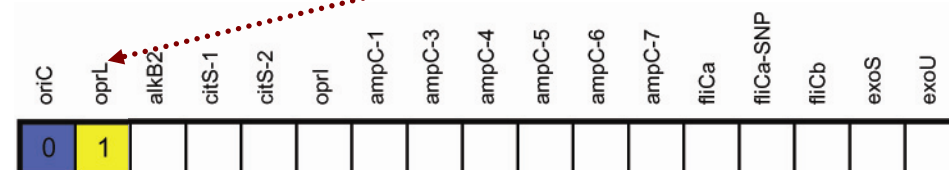
### Evaluation of the SNP-pattern:



PAO- type = 0  
non-PAO-type = 1

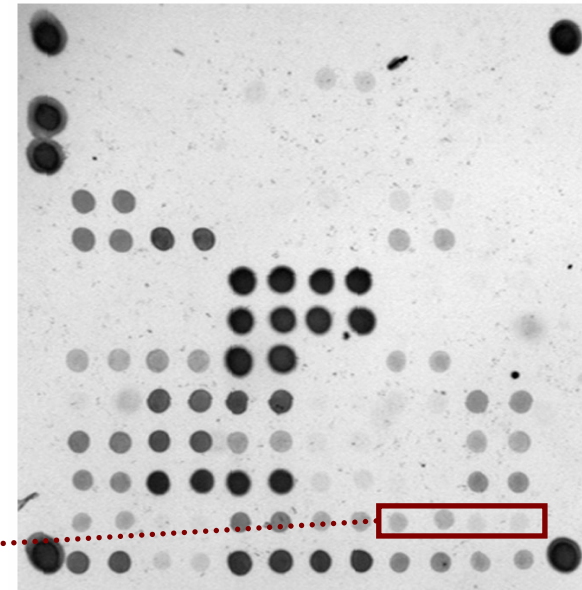


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Arg</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Arg</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		flaCa	flaCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO flhCa (1) non-PAO		PAO flhCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO orfC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

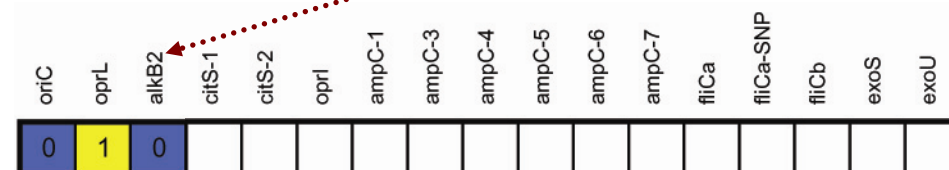




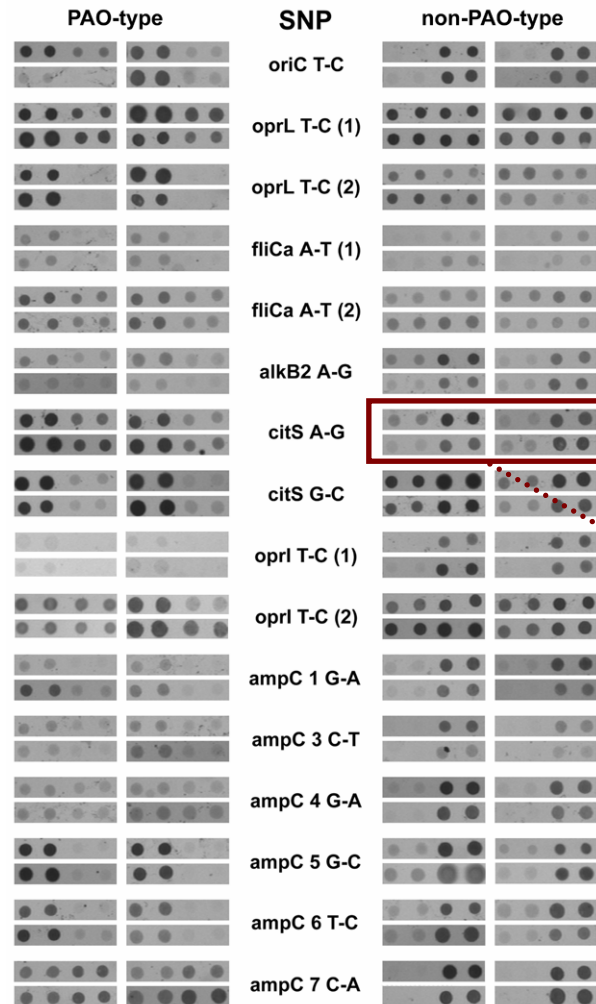
### Evaluation of the SNP-pattern:



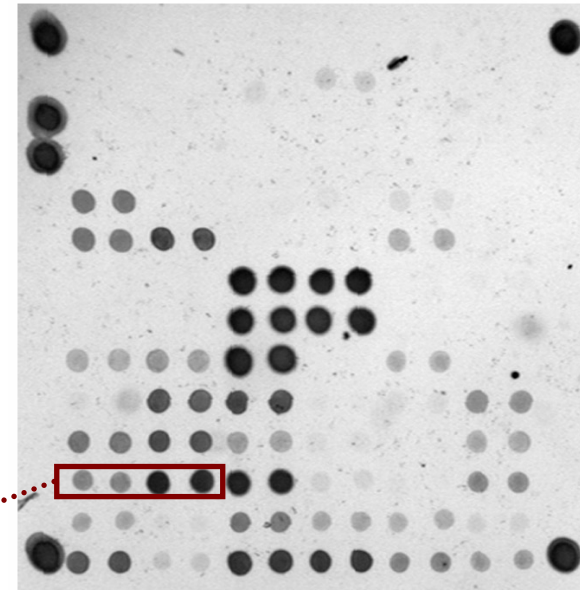
PAO- type = 0  
non-PAO-type = 1



### Evaluation of the SNP-pattern:



PAO- type = 0  
non-PAO-type = 1

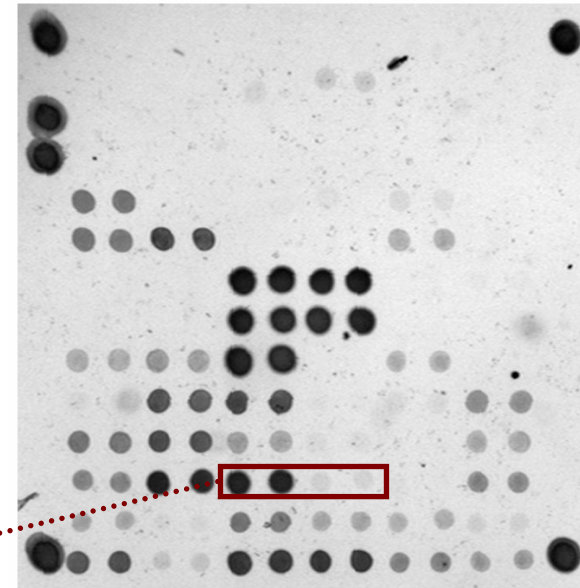


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> -island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> -island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		flrCa	flrCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO flrCa (1) non-PAO		PAO flrCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO pKLC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M



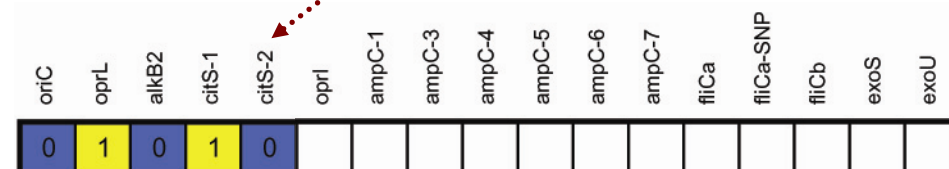


### Evaluation of the SNP-pattern:

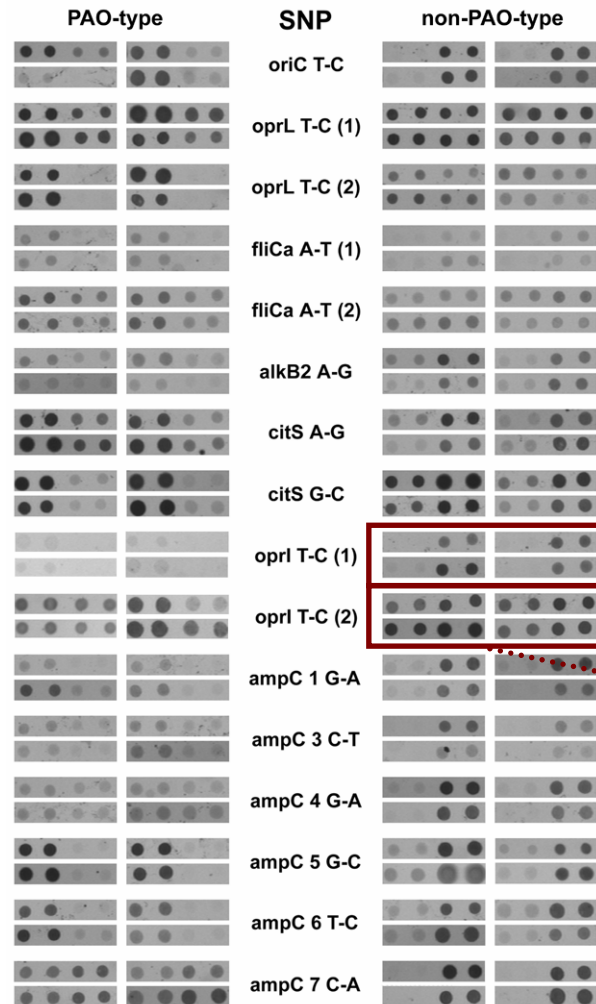


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Met</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Met</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprB (1) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

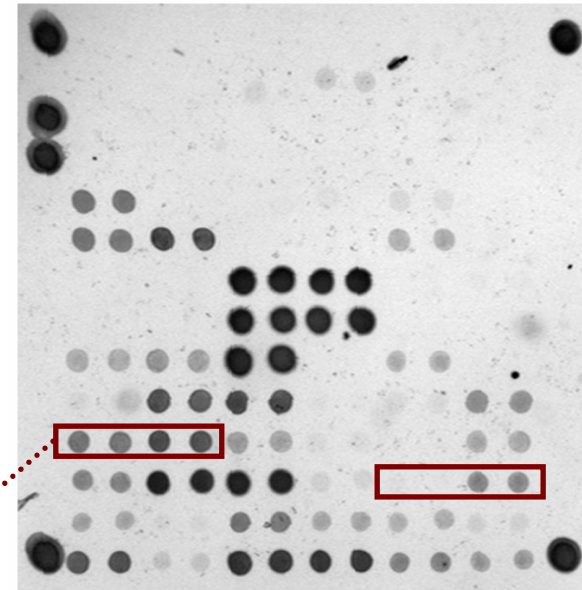
PAO- type = 0  
non-PAO-type = 1



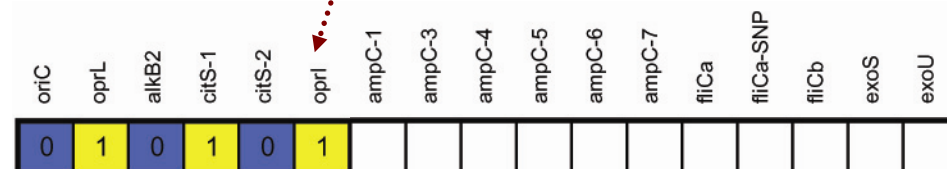
### Evaluation of the SNP-pattern:



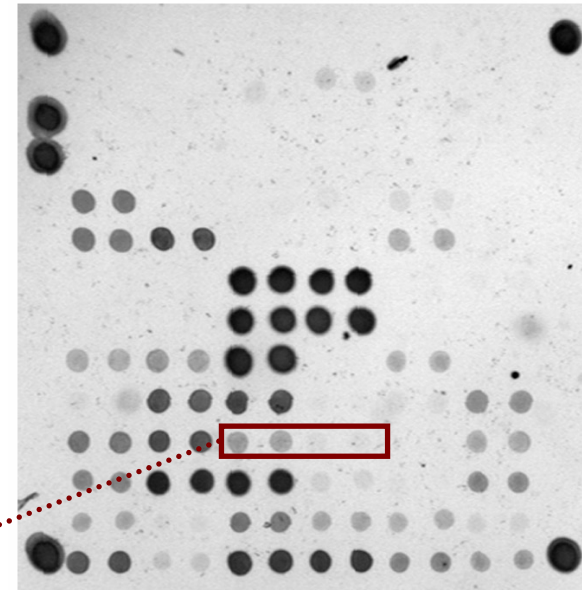
PAO- type = 0  
non-PAO-type = 1



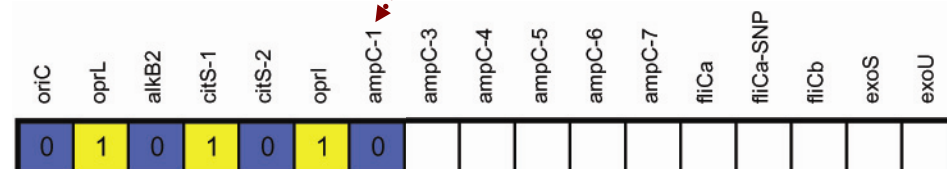
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		flhCa	flhCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (1) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO	PAO citS-2 non-PAO		PAO oprI (1) non-PAO			
	PAO flhCa (1) non-PAO	PAO flhCa (2) non-PAO	PAO alkB2 non-PAO				
M	PAO oprC non-PAO	PAO oprL (1) non-PAO	PAO oprL (2) non-PAO				M



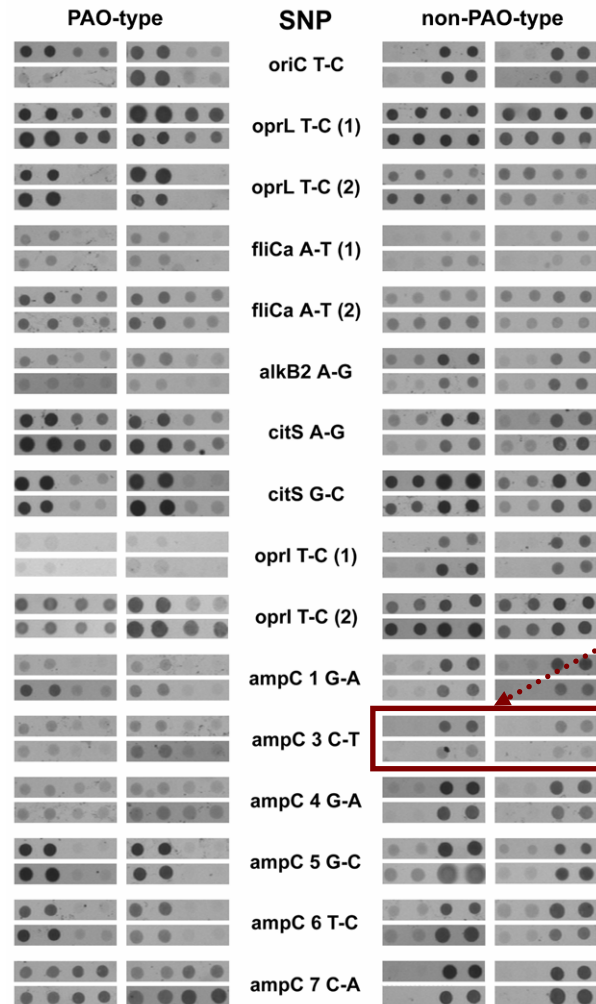
### Evaluation of the SNP-pattern:



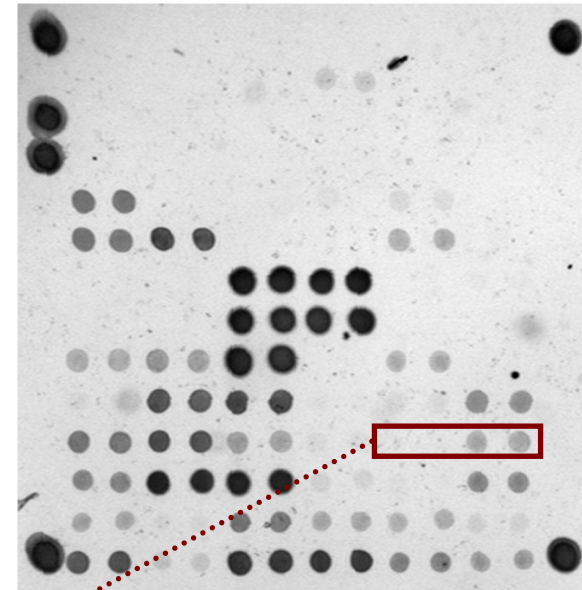
PAO- type = 0  
non-PAO-type = 1



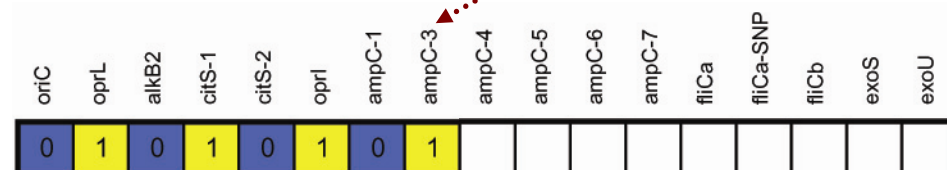
### Evaluation of the SNP-pattern:



PAO- type = 0  
non-PAO-type = 1



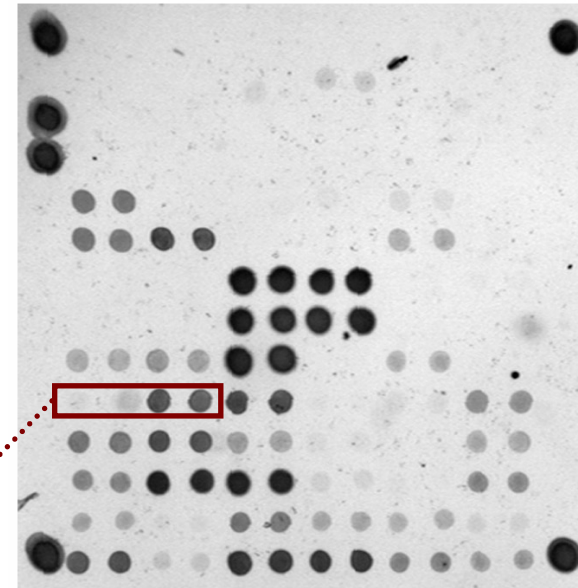
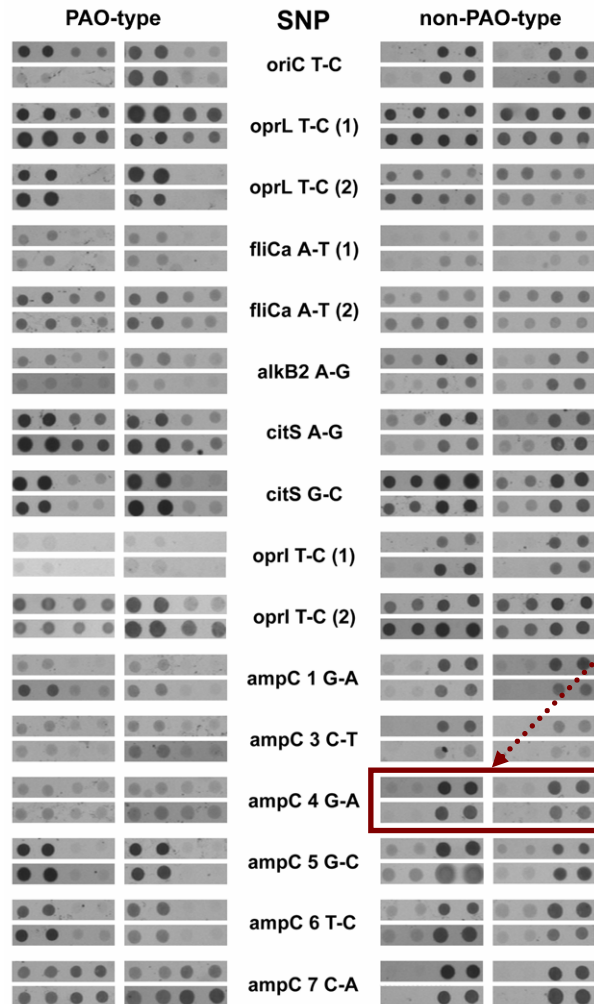
M	C-5	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		flhCa	flhCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO	PAO ampC-1 non-PAO	PAO ampC-2 non-PAO	PAO ampC-3 non-PAO	PAO ampC-4 non-PAO	PAO ampC-5 non-PAO	
	PAO citS-1 non-PAO	PAO citS-2 non-PAO			PAO oprI (1) non-PAO	PAO oprI (2) non-PAO	
	PAO flhCa (1) non-PAO	PAO flhCa (2) non-PAO			PAO alkB2 non-PAO		
M	PAO oprC non-PAO	PAO oprL (1) non-PAO			PAO oprL (2) non-PAO		M





# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAPi-1 pili chaperone	PAPi-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-1 non-PAO	PAO ampC-5 non-PAO	PAO ampC-6 non-PAO				
	PAO oprI (2) non-PAO	PAO ampC-1 non-PAO	PAO ampC-3 non-PAO				
	PAO citS-1 non-PAO	PAO citS-2 non-PAO	PAO oprI (1) non-PAO				
	PAO fliCa (1) non-PAO	PAO fliCa (2) non-PAO	PAO alkB2 non-PAO				
M	PAO oriC non-PAO	PAO oprL (1) non-PAO	PAO oprL (2) non-PAO				M

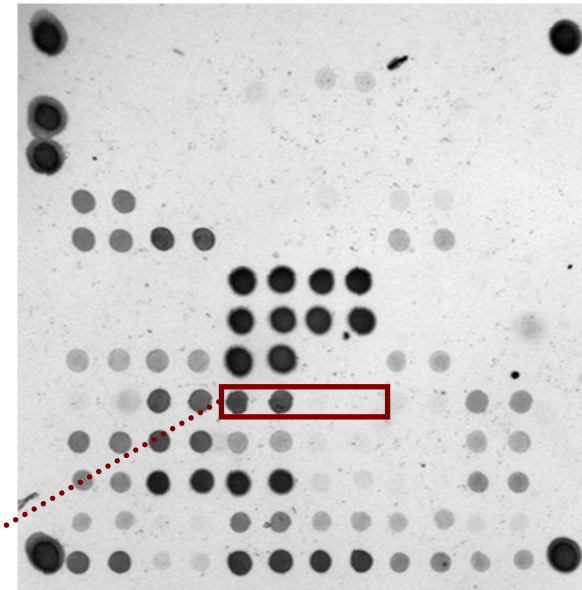
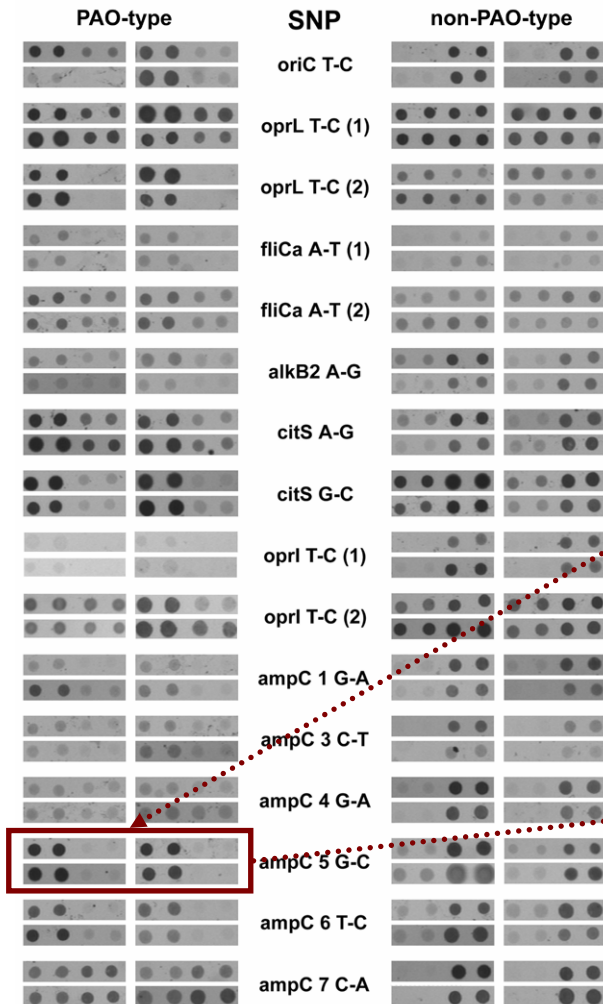
PAO- type = 0  
non-PAO-type = 1

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1								



# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



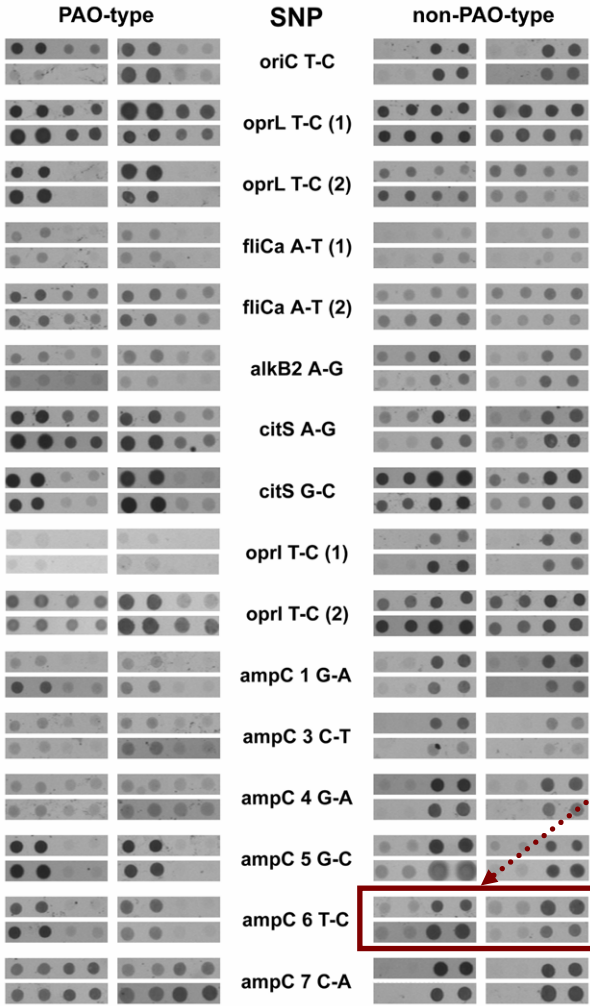
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

PAO- type = 0  
non-PAO-type = 1

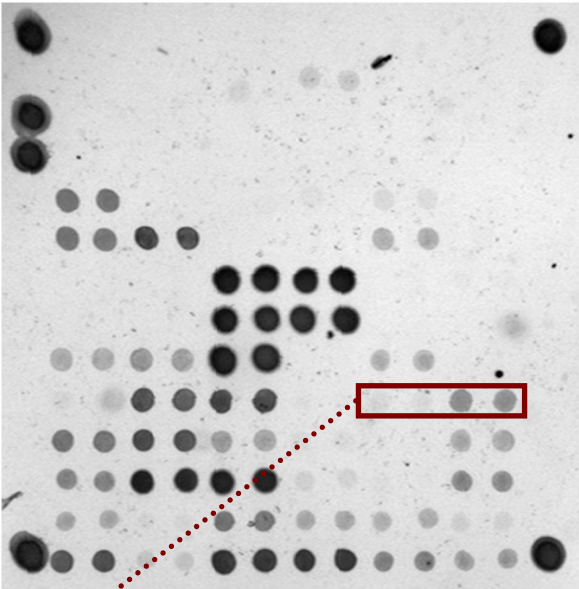
oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0							

# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



PAO- type = 0  
non-PAO-type = 1

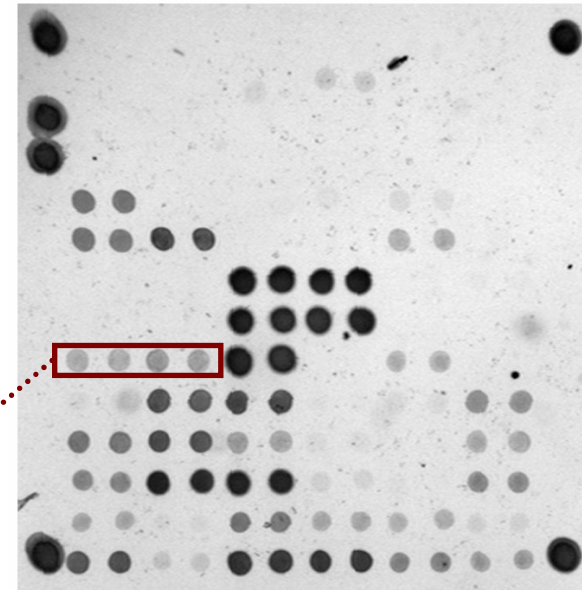
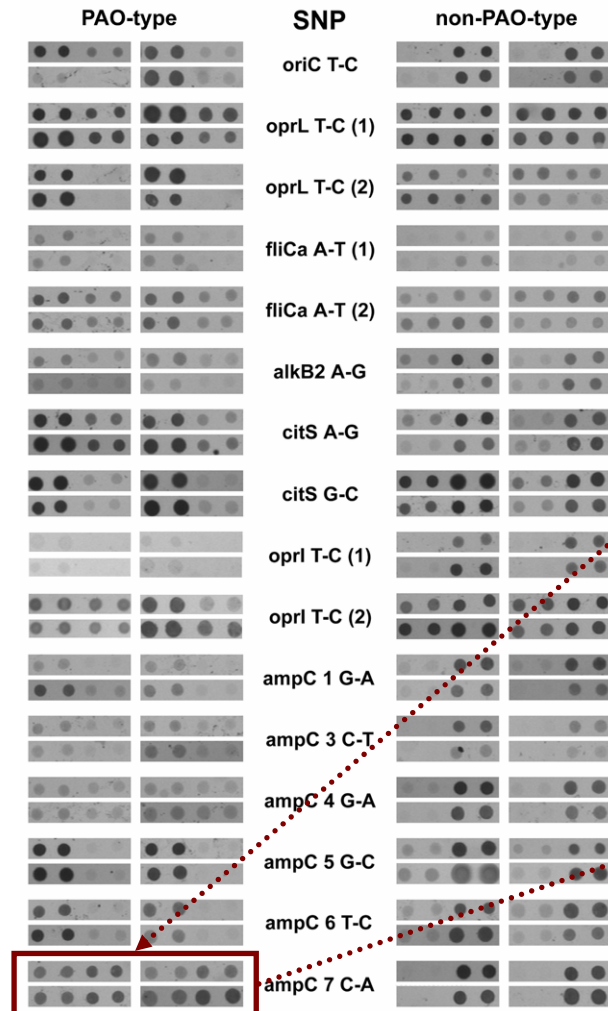


M	C-4	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-3 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-2 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1						

# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



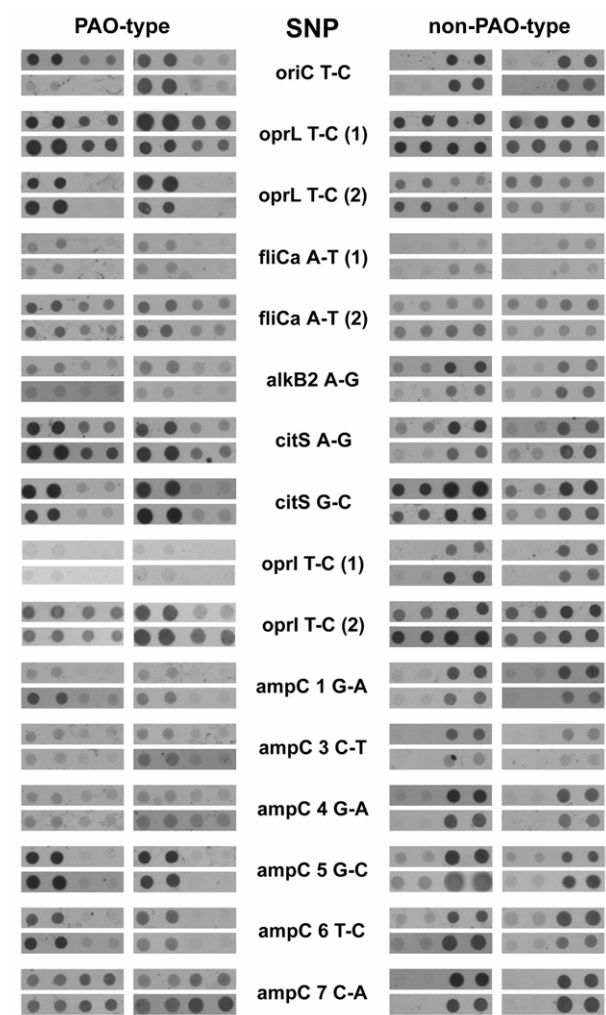
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

PAO- type = 0  
non-PAO-type = 1

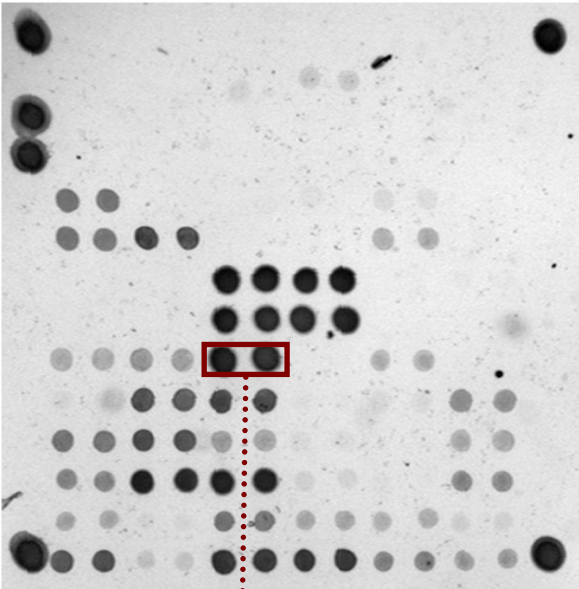
oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0					

# Strain: *P.aeruginosa* PAK

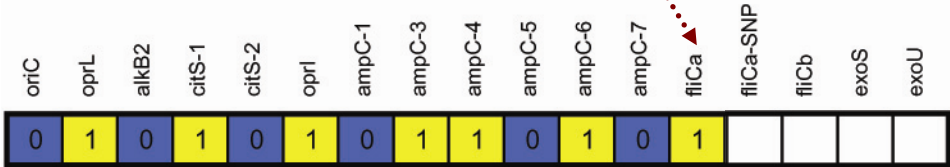
Evaluation of the SNP-pattern:



gene absent = 0  
gene present = 1



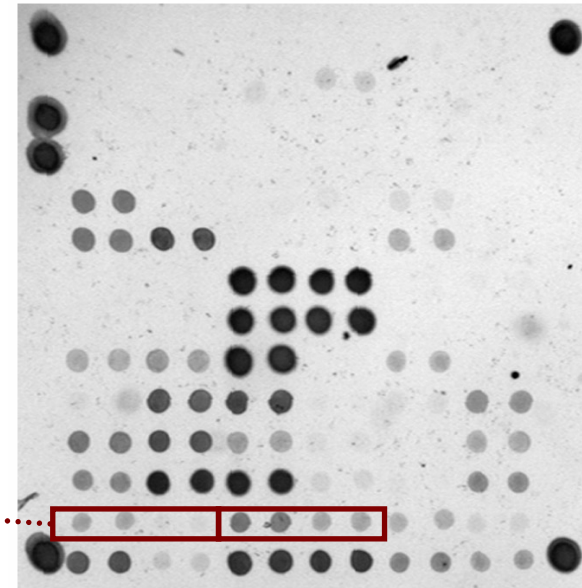
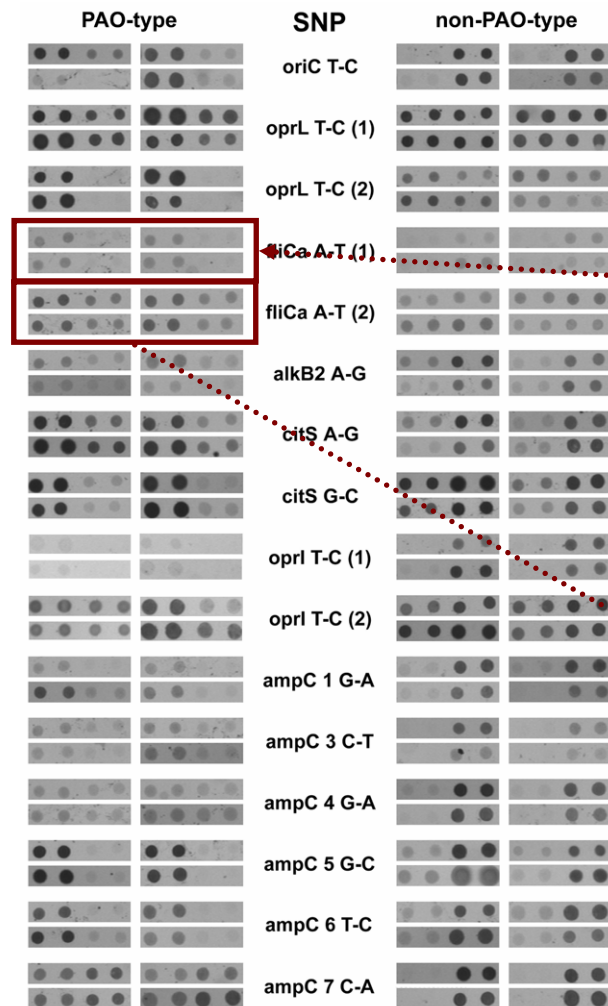
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-8/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C87-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> -island 1	XF1753	
	PA2221	PA3835		orfJ	tRNA <sup>Pro</sup> -island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M





# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

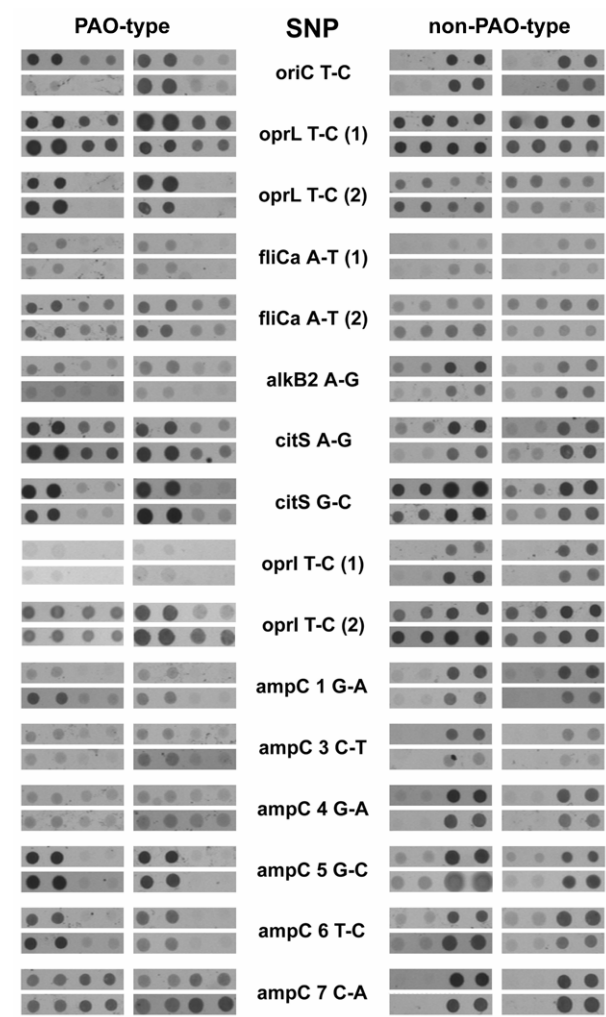
PAK- type = 0  
non-PAK-type = 1

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0			

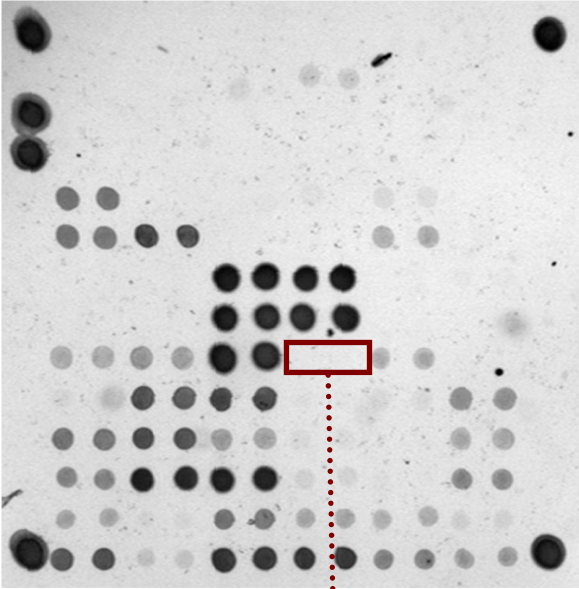


# Strain: *P.aeruginosa* PAK

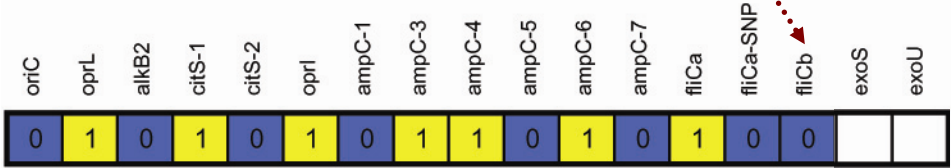
Evaluation of the SNP-pattern:



gene absent = 0  
gene present = 1

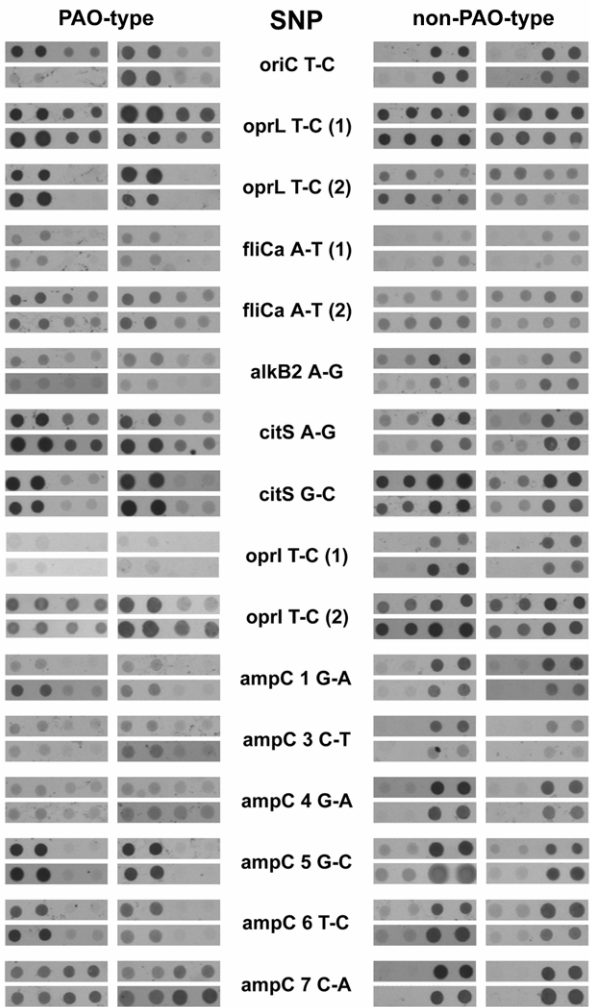


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	oriA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	oriI		tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

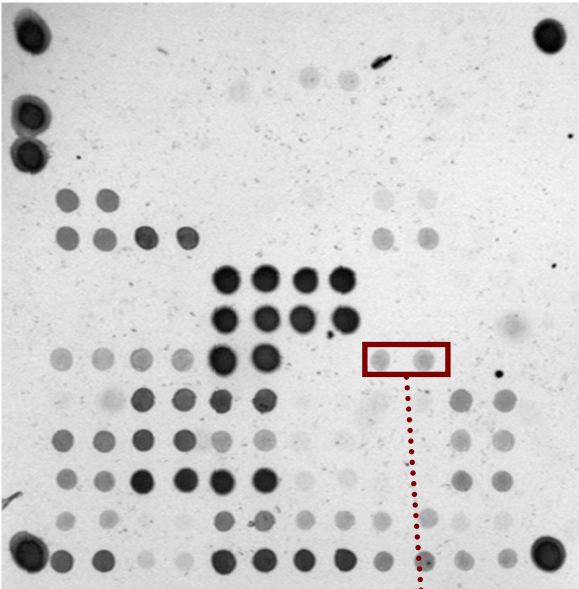


# Strain: *P.aeruginosa* PAK

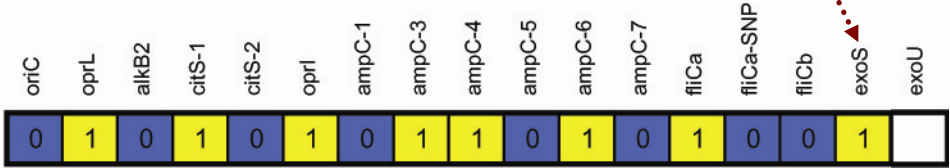
Evaluation of the SNP-pattern:



gene absent = 0  
gene present = 1

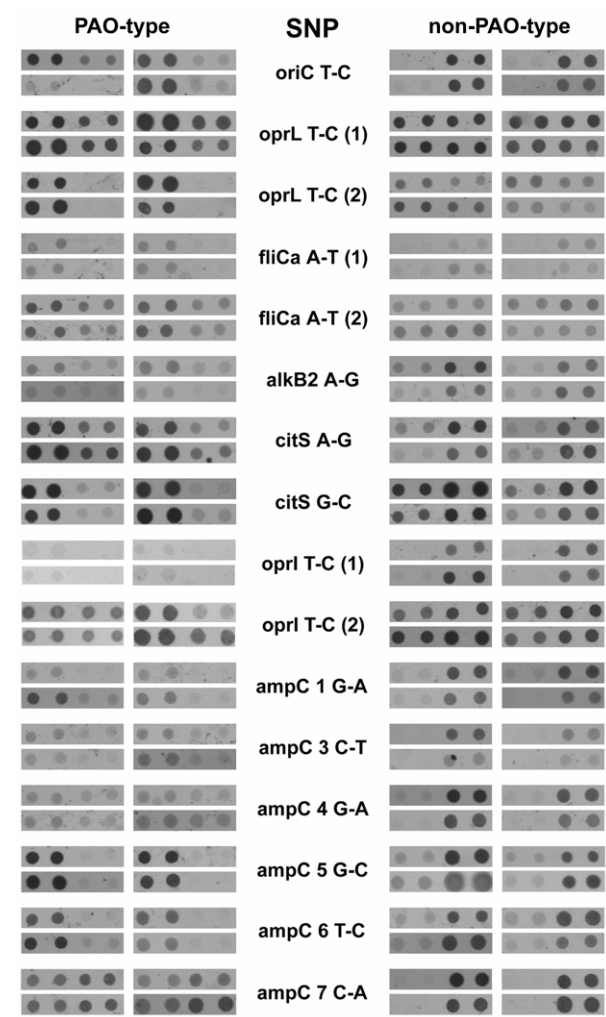


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Arg</sup> island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Arg</sup> island 2	acetyl-transferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2* non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

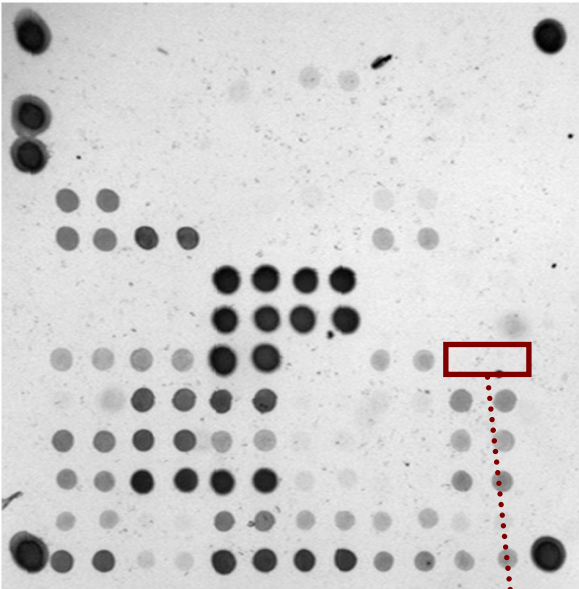


# Strain: *P.aeruginosa* PAK

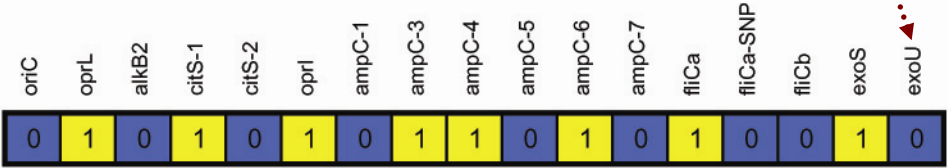
Evaluation of the SNP-pattern:



gene absent = 0  
gene present = 1

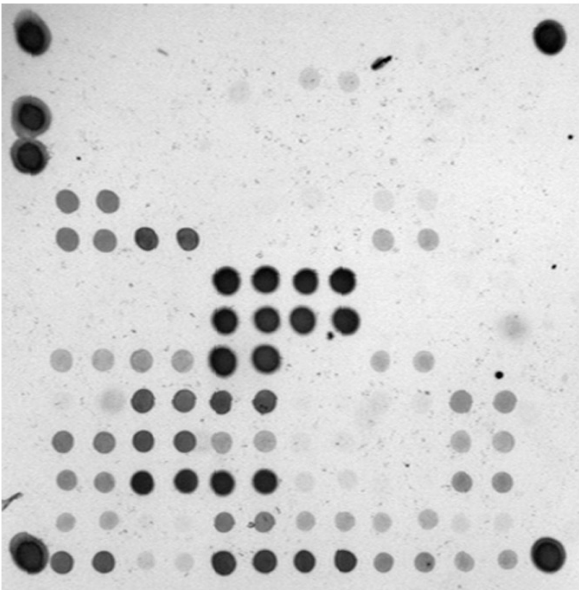
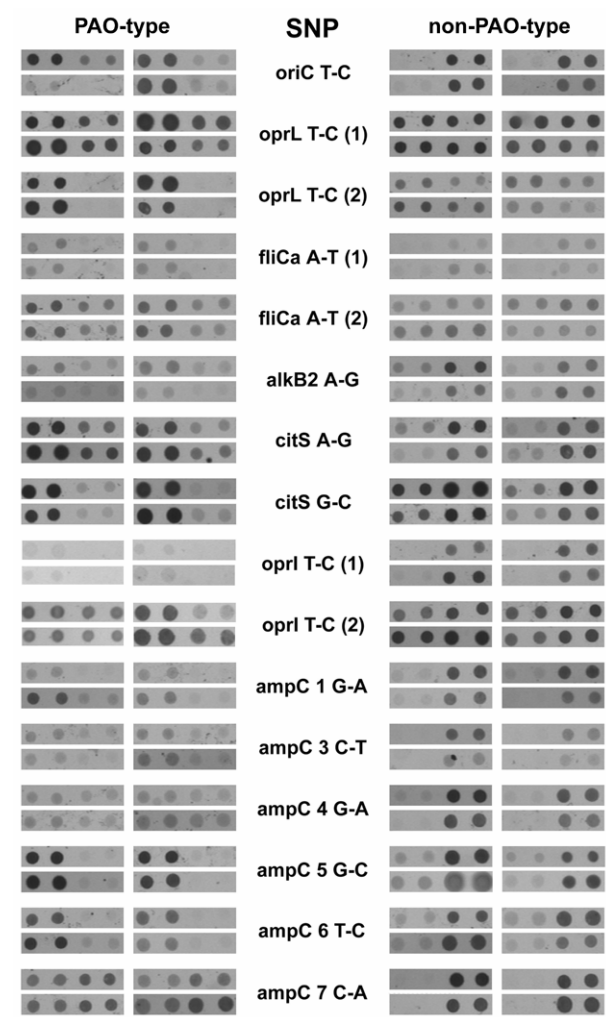


M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAP1-1 pili chaperone	PAP1-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XG1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyltransferase	
	PAO ampC-7 non-PAO		fliCa	fliCb	exoS	exoU	
	PAO ampC-4 non-PAO		PAO ampC-5 non-PAO		PAO ampC-6 non-PAO		
	PAO oprI (2) non-PAO		PAO ampC-1 non-PAO		PAO ampC-3 non-PAO		
	PAO citS-1 non-PAO		PAO citS-2 non-PAO		PAO oprI (1) non-PAO		
	PAO fliCa (1) non-PAO		PAO fliCa (2) non-PAO		PAO alkB2 non-PAO		
M	PAO oriC non-PAO		PAO oprL (1) non-PAO		PAO oprL (2) non-PAO		M

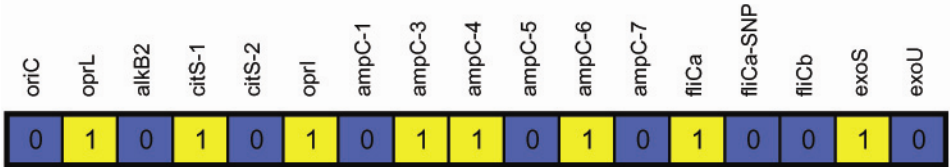


# Strain: *P.aeruginosa* PAK

Evaluation of the SNP-pattern:



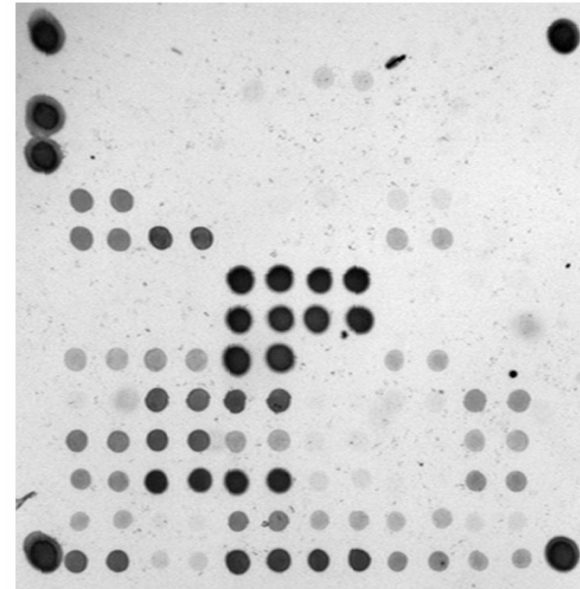
M	C-45	C-46	C-47	PAGI-3-1	PAGI-3-8	PAGI-2-1	M
	PAGI-2/3-1	PAGI-2/3-4	PAGI-2/3-5	PAGI-2/3-6			
M	pKL-1	pKL-3	TB-C47-1	TB-C47-2	PAPi-1 pili chaperone	PAPi-1 luminal binding protein	
M	pKLC conserved hypothetical	pKLC adhesin	pKLC fatty acid synthase				
	fpvA type I	fpvA type IIa	fpvA type IIb	fpvA type III	fpvB	LES	
	PA0636	PA0722			PAGI-1	PA0980	
	PA0728	PA2185	fla-island	orfA	tRNA <sup>Pro</sup> - island 1	XF1753	
	PA2221	PA3835	orfI	orfJ	tRNA <sup>Pro</sup> - island 2	acetyl-transferase	
	PAO ampC-7 non-PAO	fliCa	fliCb	exoS	exoU		
	PAO ampC-4 non-PAO	PAO ampC-5 non-PAO		PAO ampC-6 non-PAO			
	PAO oprI (2) non-PAO	PAO ampC-1 non-PAO		PAO ampC-3 non-PAO			
	PAO citS-1 non-PAO	PAO citS-2 non-PAO		PAO oprI (1) non-PAO			
	PAO fliCa (1) non-PAO	PAO fliCa (2) non-PAO		PAO alkB2 non-PAO			
M	PAO oriC non-PAO	PAO oprL (1) non-PAO		PAO oprL (2) non-PAO			M



# Strain: *P.aeruginosa* PAK

SNP-pattern:

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0





# Strain: *P.aeruginosa* PAK

SNP-pattern:

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0

Conversion of the SNP- pattern to a hexadecimal code (manually):

Hex-code	oriC	oprL	alkB2	citS-1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	citS-2	oprI	ampC-1	ampC-3
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	ampC-4	ampC-5	ampC-6	ampC-7
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	0	0		0	0
1	0	0		0	1
2	0	0		1	0
3	0	0		1	1
4	0	1		0	0
5	0	1		0	1
6	0	1		1	0
7	0	1		1	1
8	1	0		0	0
9	1	0		0	1
A	1	0		1	0
B	1	0		1	1
C	1	1		0	0
D	1	1		0	1
E	1	1		1	0
F	1	1		1	1



if fliCa=1, then fliCb=0 and vice versa  
 $\Rightarrow$  one of these genes is sufficient for typing  
 fliCb can be ignored

# Strain: *P.aeruginosa* PAK

SNP-pattern:

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0

Conversion of the SNP- pattern to a hexadecimal code (manually):

Hex-code	oriC	oprL	alkB2	citS-1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	citS-2	oprI	ampC-1	ampC-3
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	ampC-4	ampC-5	ampC-6	ampC-7
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	0	0		0	0
1	0	0		0	1
2	0	0		1	0
3	0	0		1	1
4	0	1		0	0
5	0	1		0	1
6	0	1		1	0
7	0	1		1	1
8	1	0		0	0
9	1	0		0	1
A	1	0		1	0
B	1	0		1	1
C	1	1		0	0
D	1	1		0	1
E	1	1		1	0
F	1	1		1	1

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0

# Strain: *P.aeruginosa* PAK

SNP-pattern:

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0

Conversion of the SNP- pattern to a hexadecimal code (manually):

Hex-code	oriC	oprL	alkB2	citS-1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	citS-2	oprI	ampC-1	ampC-3
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	ampC-4	ampC-5	ampC-6	ampC-7
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	0	0		0	0
1	0	0		0	1
2	0	0		1	0
3	0	0		1	1
4	0	1		0	0
5	0	1		0	1
6	0	1		1	0
7	0	1		1	1
8	1	0		0	0
9	1	0		0	1
A	1	0		1	0
B	1	0		1	1
C	1	1		0	0
D	1	1		0	1
E	1	1		1	0
F	1	1		1	1

oriC	oprL	alkB2	citS-1
0	1	0	1

citS-2	oprI	ampC-1	ampC-3
0	1	0	1

ampC-4	ampC-5	ampC-6	ampC-7
1	0	1	0

fliCa	fliCa-SNP	fliCb	exoS	exoU
1	0		1	0

# Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):

Hex-code	oriC	oprL	alkB2	citS-1
0				
1				
2				
3				
4				
5	0	1	0	1
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

compare

Hex-code	citS-2	oprI	ampC-1	ampC-3
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	ampC-4	ampC-5	ampC-6	ampC-7
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Hex-code	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	0	0		0	0
1	0	0		0	1
2	0	0		1	0
3	0	0		1	1
4	0	1		0	0
5	0	1		0	1
6	0	1		1	0
7	0	1		1	1
8	1	0		0	0
9	1	0		0	1
A	1	0		1	0
B	1	0		1	1
C	1	1		0	0
D	1	1		0	1
E	1	1		1	0
F	1	1		1	1

oriC	oprL	alkB2	citS-1
0	1	0	1

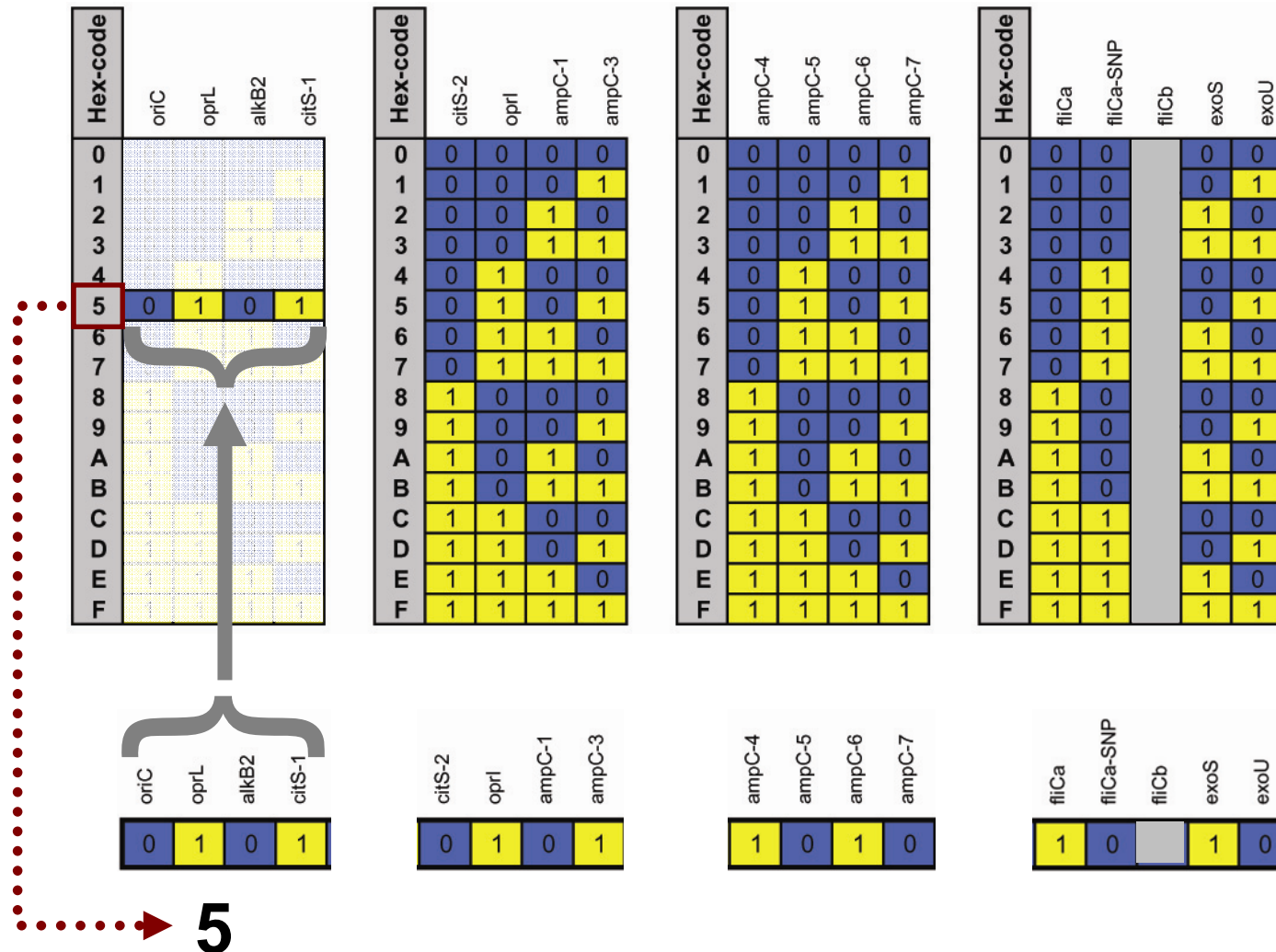
citS-2	oprI	ampC-1	ampC-3
0	1	0	1

ampC-4	ampC-5	ampC-6	ampC-7
1	0	1	0

fliCa	fliCa-SNP	fliCb	exoS	exoU
1	0		1	0

# Strain: *P.aeruginosa* PAK

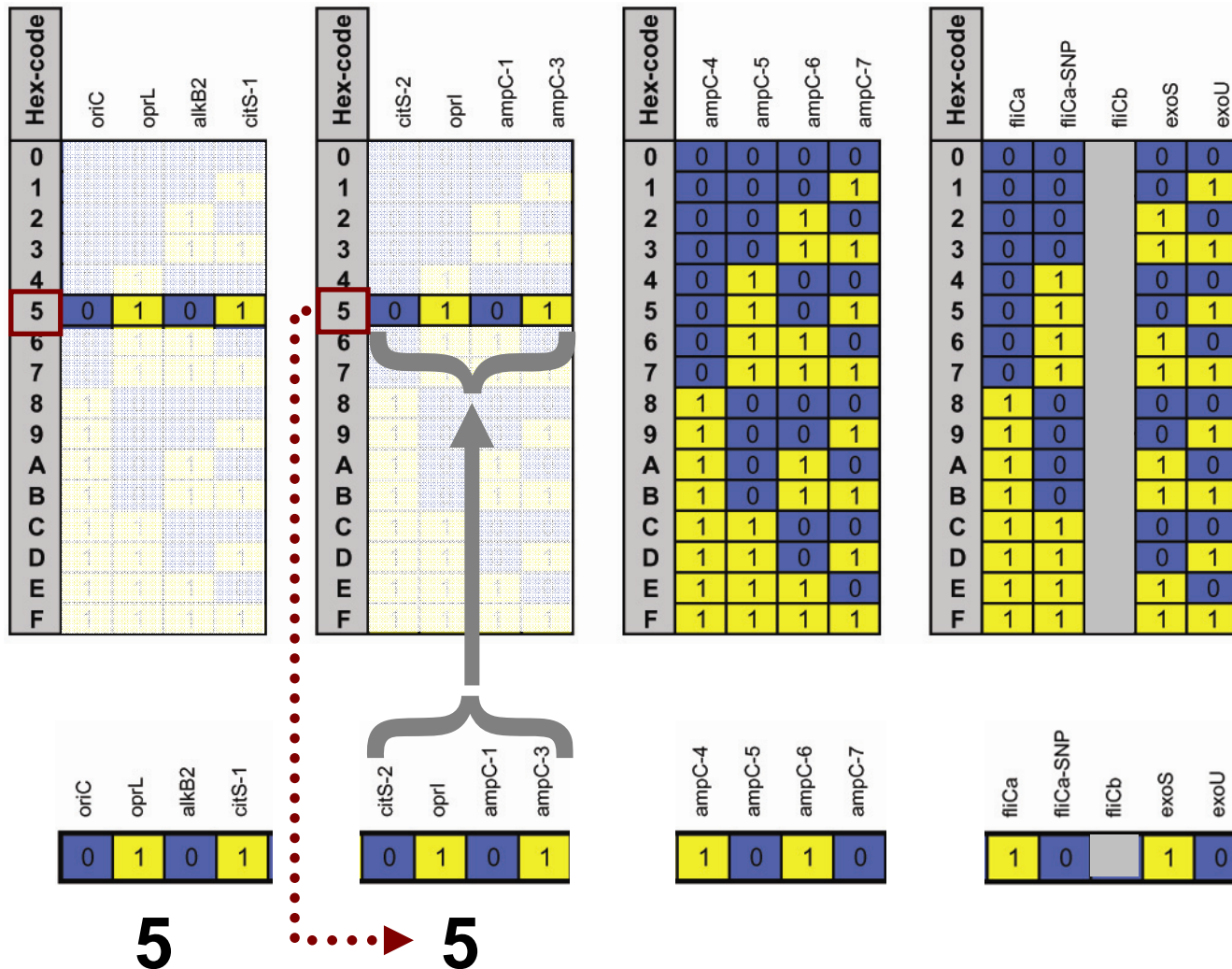
Conversion of the SNP- pattern to a hexadecimal code (manually):





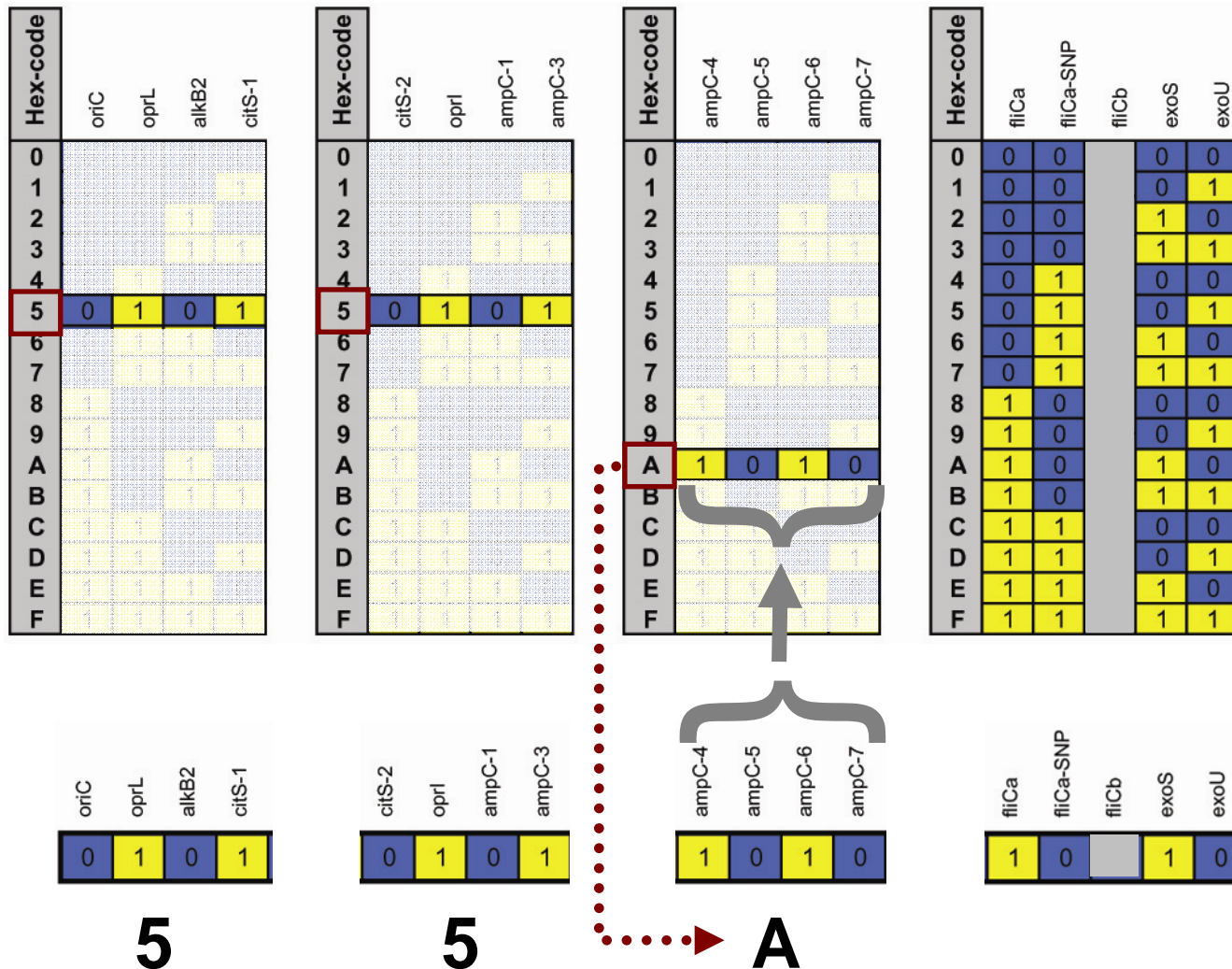
# Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):



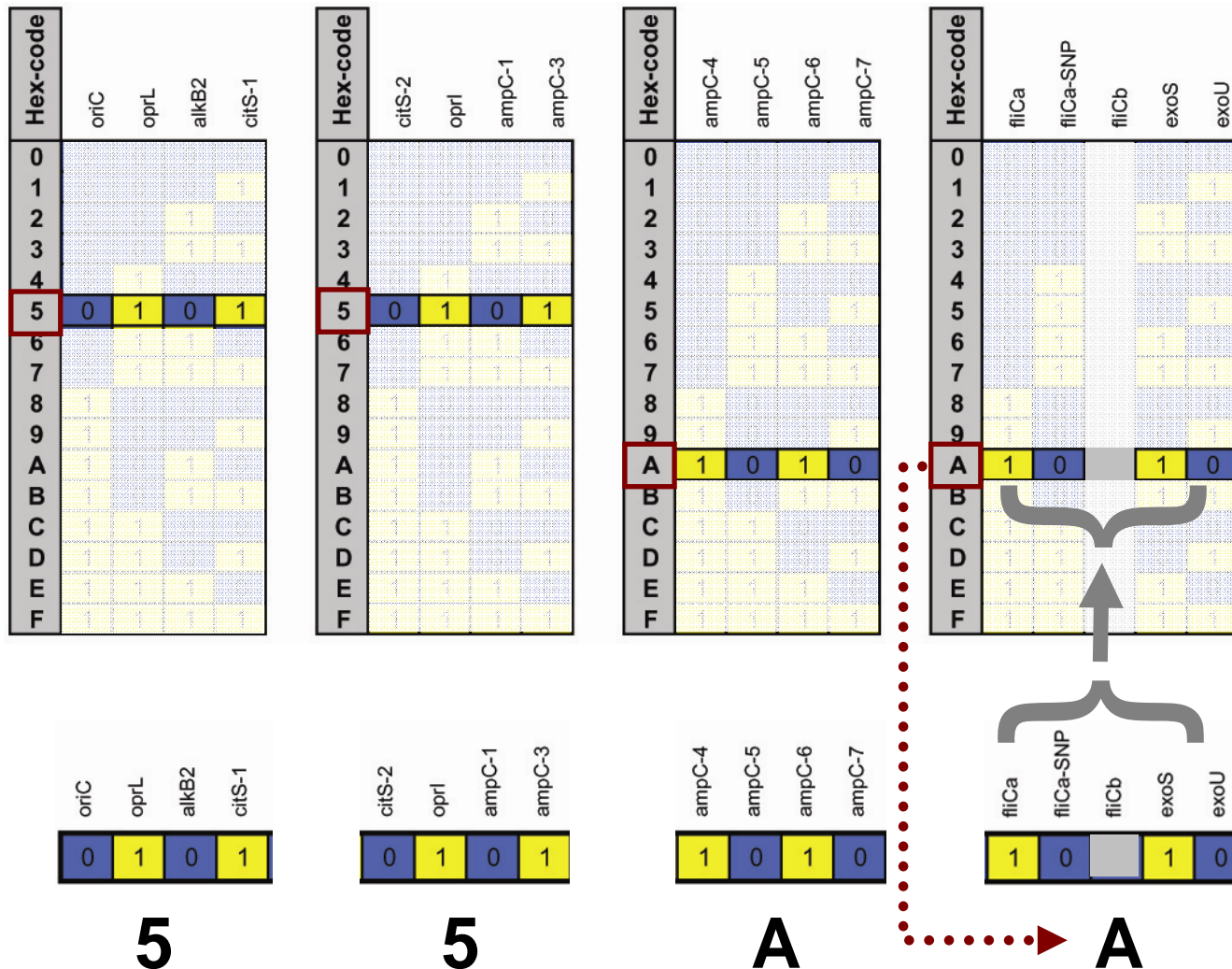
# Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):



# Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):



# Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):

Hex-code	oriC	oprL	alkB2	citS-1
0				
1				
2				
3				
4				
5	0	1	0	1
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

Hex-code	citS-2	oprI	ampC-1	ampC-3
0				
1				
2				
3				
4				
5	0	1	0	1
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

Hex-code	ampC-4	ampC-5	ampC-6	ampC-7
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A	1	0	1	0
B				
C				
D				
E				
F				

Hex-code	fliCa	fliCa-SNP	fliCb	exoS	exoU
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
A	1	0		1	0
B					
C					
D					
E					
F					

oriC	oprL	alkB2	citS-1
0	1	0	1

5

citS-2	oprI	ampC-1	ampC-3
0	1	0	1

5

ampC-4	ampC-5	ampC-6	ampC-7
1	0	1	0

A

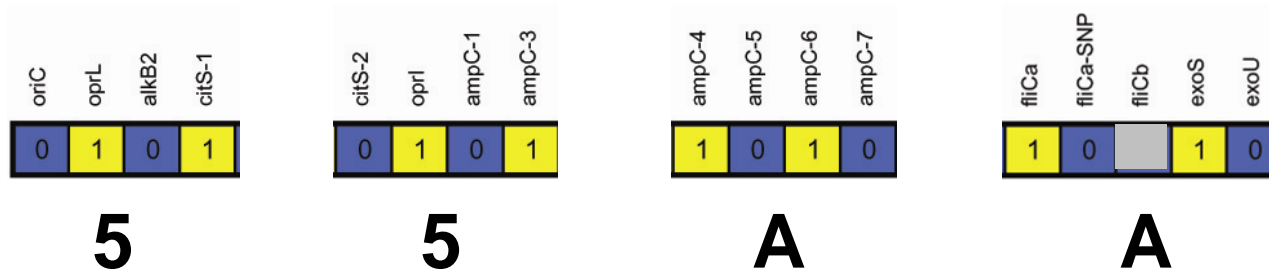
fliCa	fliCa-SNP	fliCb	exoS	exoU
1	0		1	0

A



## Strain: *P.aeruginosa* PAK

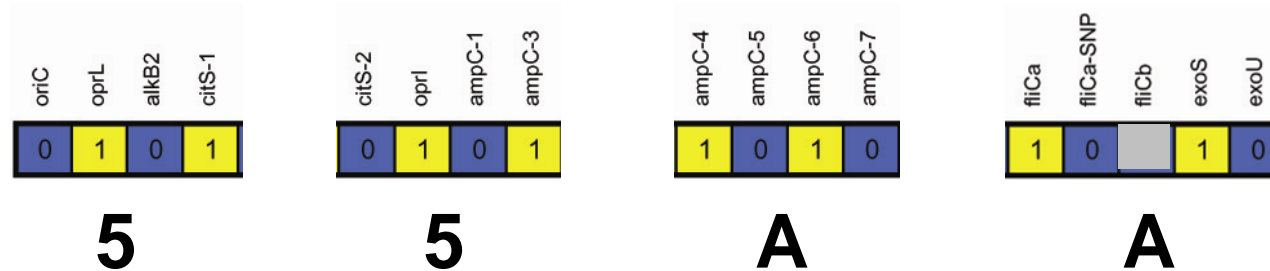
Conversion of the SNP- pattern to a hexadecimal code (manually):



Hexadecimal code for the SNP-pattern of PAK: **55AA**

## Strain: *P.aeruginosa* PAK

Conversion of the SNP- pattern to a hexadecimal code (manually):



Hexadecimal code for the SNP-pattern of PAK: **55AA**

Advantage of the hexadecimal codes:

Instead of an unwieldy digital (binary) code with 17 positions the complete typing information is combined to a 4 letter- code that can easily be used and exchanged for the identification of a clone.

## Strain: *P.aeruginosa* PAK

SNP-pattern:

oriC	oprL	alkB2	citS-1	citS-2	oprI	ampC-1	ampC-3	ampC-4	ampC-5	ampC-6	ampC-7	fliCa	fliCa-SNP	fliCb	exoS	exoU
0	1	0	1	0	1	0	1	1	0	1	0	1	0	0	1	0

**Automated conversion of the SNP- pattern to a hexadecimal code  
(MS-Excel 2003):**

SNP-pattern = DEC2HEX((8\*oriC+4\*oprL+2\*alkB2+citS-1)\*4096  
+(8\*citS-2+4\*oprI+2\*ampC-1+ampC-3)\*256  
+(8\*ampC-4+4\*ampC-5+2\*ampC-6+ampC-7)\*16  
+ 8\*fliCa+4\*fliCa-SNP+2\*exoS+exoU;4)

SNP-pattern = **55AA**